Attachment XIII NISS Frequently Asked Questions

NISS Application within CCS MTP:

1. Q: Is the NISS to be performed on all children with upper motor neuron disorders such as cerebral palsy, brain injury, encephalopathy, degenerative cerebral disorders, etc?
   A: Yes, with the exception of children who are in the MTP for "clinic only" services and who have no therapy orders.

2. Q: When evaluating a child on the NISS and one discipline is scoring while the other is handling the child, do both the OT and PT record evaluation time on the CCS Patient Therapy Record (PTR)?
   A: Both should record the time and activity in the PTR. NISS evaluation should be performed by an OT and PT whenever reasonable. The NISS evaluation can be performed jointly in several ways. One discipline can handle the child for all tasks with both observing the responses; or the child handling can be divided between the disciplines according to the preferences of the examiners. BOTH are still observing the responses.

NISS General Questions

1. Q: Why do you recommend an OT and PT do the evaluation together?
   A: The combination of both disciplines improves the accuracy and reliability of the score. There are two viewing angles to observe the child's response.

2. Q: When an OT and PT do the NISS, who handles the child and who scores the child?
   A: Either therapist can handle the child and the tasks can be divided up according to therapist preference. Both therapists should agree on the child's response.

3. Q: Can the examiner use tactile or auditory cues?
   A: Yes, verbal, visual, auditory, and tactile cues are all allowed. Each child responds differently to the various cues. The purpose is to give the child the best opportunity to perform the task.

4. Q: Is the NISS appropriate for children with traumatic brain injury?
   A: Yes, the NISS is designed to evaluate neuromotor impairment severity in children with upper motor neuron disorders such as cerebral palsy, brain injury, encephalopathy, degenerative cerebral disorders, etc.

5. Q: When should the NISS be performed?
   A: The child's neuromotor impairment can be assessed at any time. Since it is likely to change slowly up to age 6 years of age when myelinization of the motor systems occurs and is much less likely to change after that time the following schedule is recommended:

- 12 months of age or at entry into treatment program if already older than 12 months age.
- 2-3 years of age
- 5-6 years of age
- 11-12 years of age
- 18-19 years of age
- Before and 3 months after a significant medical/surgical intervention (such as complex orthopedic surgery, selective dorsal rhizotomy, and intrathecal baclofen infusion).

6. Q: What do I do if the child does not cooperate?
   A: The NISS can be performed in several sessions over as much as a month's time. If the child does not cooperate for motor control and upright postural responses, write the reason or problem on the data sheet and score as an ABSENT response. If tone evaluation is impossible, state the reason on the data sheet and do not put a score in the tone sub-score box. In this case you will not be able to obtain a total NISS score.

7. Q: What if a child suddenly demonstrates a skill that was scored differently on a recent NISS evaluation?
   A: The NISS score can be revised if the skill demonstrated occurs with in one month of the other parts of the NISS evaluation and the child is still in the age window for recommended testing. Or the whole NISS evaluation can be repeated. There is no significant learned response. It is unlikely that a child will learn how to do one of the tasks because of prior experience with the NISS evaluation.

8. Q: Is the NISS score going to be used to determine Medical Therapy Program (MTP) eligibility or to determine whether a child can receive therapy.
   A: No, eligibility for MTP is defined in State Regulations. The type and amount of therapy that is provided is based on multiple factors: prior progress, rehab potential, and establishment of realistic goals for physical function. The NISS tool is designed to assist the therapy and medical staff to understand the child's severity level and compare the child's progress to other children with similar severity. The impairment severity is only one factor in determining rehabilitation potential.

9. Q: What do I tell parents about the NISS evaluation?
   A: You would explain that this is an evaluation tool. You would explain it the way you explain other evaluation tools.

MOTOR CONTROL:

1. Q: What if the PROM for head rotation is less than 45 degrees.
   A: Then the response is impossible (absent) in that direction.

2. Q: Must the child be upright to test head rotation.
   A: Test the child as close to upright as possible. If no upright positioning is possible the child may be tested semi-reclining or supine. Be sure the head rotates and returns to neutral voluntarily and not by gravity or tone.

3. Q: Why is head flexion extension tested by looking down and then up.
   A: This is the most important range for eye gaze. Be sure to have the child looks DOWN 30 degrees before looking UP. Be sure the child can stop when returning to neutral and not continue into hyperextension.

4. Q: How much lip pucker is required?
   A: Look at the lips from the front and determine if the child brings the outer borders significantly toward the center. It does not have to be perfect and the lips do not have to protrude forward.

5. Q: If a child can pucker and can kiss with both lips but cannot do both at the same time can this be scored as "0."
   A: No. This would be scored as a partial response.

6. Q: What if the child refuses to pucker lips or kiss when asked (several times) but later in the evaluation, the child is observed to pucker their lips while doing another totally different task? Do you go back and give the child a partial response for puckering their lips, even if it was not in response to your request?
   A: Score the puckering of the lips if the effort was voluntary.

7. Q: In tongue lateralization does the tongue tip need to touch the side of the face.
   A: No, but the tongue needs to protrude out of the mouth, deviate to the side, and touch the lateral border of the open mouth.

8. Q: If a child demonstrates good isolation of finger movement playing with another object, does s/he need to demonstrate the isolation when picking up the cereal.
   A: If the child picks up the cereal piece without demonstrating isolation but the examiner sees that the child has the capacity to do so based on observation of toy play then the score can be 0 or 1 depending on strength, speed, agility, precision, etc.

9. Q: The instructions say to place the cheerio on a table or tray in front of the child, but in the video, Dr. Boyd held the Cheerio in front of a couple of children using a pincer grasp. What if the child rakes the Cheerio using a synergistic grasp if the Cheerio is on a tray, but when the Cheerio is held in front of the child with a pincer grasp, the child uses an isolated abnormal pinch 1 time?
   A: Score this as isolated movement. The cereal can be offered in several different ways to determine the child's best hand control.

10. Q: What is <u>normal</u> pinch and whole handgrip strength for <u>all</u> ages?
    A: Normal values are not available for all ages. Use best judgment.

11. Q: If a child obviously has no ability to move arms or legs because tone is greater than 4H, do we really need to try to get them to reach for a cheerio or kick the ball?
A: Yes you may be surprised by the result. However, the instructions say you may score the motor control as 4 if the caretaker says the child never reaches or kicks.

12. Q: What do you do if the child cannot be placed at the 90-90 hip/knee sitting position for evaluation of LE motor control?
A: Place the child as close to the 90-90 position as possible.

13. Q: What if there is not enough PROM for the child to extend the knee and touch the tennis ball?
A: The foot only has to go forward 4 inches. If the child is unable to do that the score is "4."

14. Q: Can you use a seat belt when testing LE motor control?
A: Yes. Be sure to have your hand on the pelvis to identify synergistic tilt of the pelvis. The seat belt will not prevent you from feeling this movement.

15. Q: When a child uses stepping action to touch the ball, isn't this voluntary?
A: Yes, the response is a volitional activation of hip-knee flexion withdrawal followed by extension. Both the flexion and extension are synergistic (E/F) but this is not the movement requested and reflects less motor control than the "3" response. So the stepping action is scored as "4" if it is the only response.

16. Q: If the other leg extends equally and simultaneously, is this scored as "3" synergy.
A: Only if the pelvis tilts simultaneously (hip extension synergy). If the pelvis/hip is stationary then the other leg movement is considered "associated movement" and the score is "1" because there is no synergy with the hip. Synergistic movement of the pelvis/hip is the crucial distinction in the evaluation of motor control in the lower extremities.

UPRIGHT POSTURAL RESPONSES:

1. Q: Does head and trunk response need to be immediate?
A: No, if the response is not immediate ask the child to look at something straight ahead or say, "hold your head up". Many children will let you rock them to the side and enjoy the tilted position or think it is a game.

2. Q: How do you score the head and trunk responses if the eyes do not return to horizontal?
A: The head must return to vertical for a complete head response. In this case the eyes are horizontal. When testing trunk responses the head may over correct, particularly if the pelvis is tilted more than 30 degrees. This is acceptable. Also, the child may be looking somewhere other than straight ahead. If the shoulders return to horizontal this is acceptable as a complete response.

3. Q: If the head response is absent, how is the trunk response or protective extension tested?
   A: If the head response is absent, do not test trunk response and protective extension. Score them as absent.

4. Q: How do you score the trunk response if the therapists hands need to be on the trunk instead of the pelvis?
   A: This cannot be considered a complete response. Place hands on the pelvis and tilt to see if the child has a partial response.

TONE:

1. Q: What if the child anticipates being pulled up in the head lag test?
   A: Ask the child to wait until you start to pull. If the movement continues to be anticipated score as normal.

2. Q: When pulling the child up by their arms, what if there is very high axillary or head/neck tone, or if the cervical neck area is fused so that there is no head lag?
   A: The child would be scored as if normal but make comment of the circumstances.

3. Q: What do I do if the child lifts his/her arms out of the way during the axillary lift?
   A: Tell the child to "hold on we are going up" or "I am trying to lift you." A child who slides through abnormally has no choice.

4. Q: How do you do the Axillary lift with large or heavy children?
   A: Two people may be needed, one lifting under each arm. Four people may be needed with 2 lifting under each arm. Use good judgment and safety precautions in planning this lift. If axial lift is not tested then the tone sub-score and the total NISS score cannot be obtained.

5. Q: Dr. Boyd in the video says if either shoulder is partially abnormal, then score a 1= [partially abnormal] even if the other shoulder is normal. What if one shoulder either completely slides through or is rigid, is that scored a 2?
   A: The score is based on the most abnormal side. This example would be scored as a 2.

6. Q: Sometimes the tone may feel normal, but when you look at the resting posture of the extremity, it's in more of a hypotonic-appearing position (for example, the wrist is postured in end-range flexion at rest, but when you move the hand, the tone feels OK). Do you score by what you feel when moving the hand = normal tone or go by what the posture of the hand is always in = 2L?
   A: If the examiner finds normal resting resistance to movement score the muscle group as normal.

7. Q: If you decide that the tone is normal, do you still need to do the 1-2-3-4 second stretch test?
   A: No

8. Q: What do you score for the patient who tries to help with the movement or who purposely resists your movement, even though you try to wait them out and try to get them to relax? What do you score when you feel that the increased resistance between 1-2-3-4 is due to resistance or purposeful muscle activity rather than just tone?
   A: Try again another time. If the child cannot cooperate enough to assess resting tone do not score the muscle group. You will not be able to calculate a sub score for tone and a NISS Total Score. Other parts of the NISS are still useful.

9. Q: On the video, the test for shoulder adductors is done bilaterally at the same time. For a very large or tall patient, can we test the shoulder adductors unilaterally one at a time or does this affect the results?
   A: Yes, the sides can be done individually.

10. Q: Which extremity muscle group (extensors or flexors) do I test when both are low tone?
    A: Be sure to test the most abnormal muscle group – the ones with the lowest tone or least resistance.

11. Q: When testing adductor tone in lower extremities, how are we to keep the knees flexed at 90 degrees in large individuals with severe impairment? Is it ok to flex the knees greater than 90?
    A: You may use an assistant and if necessary you may flex more than 90 degrees.

12. Q: What muscle group do I test if one is high tone and the other is low tone?
    A: Test the high tone muscle group.

13. Q: If the child has hip flexion contractures and you are unable to fully extend the contra lateral leg to test NISS tone, can you still test and note the contracture?
    A: The extension of the contra lateral leg when testing the opposite hip and knee for either flexion and extension tone is for the purpose of stabilizing the pelvis. You can still do this with contractures present.

14. Q: How do you score NISS tone for a child who cannot move an extremity against gravity?
    A: If the child has hypertonicity (spasticity, rigidity, or dystonia) as the cause use sequentially slower stretches (1H, 2H, 3H, 4H, or 4C). If the child has low tone and weakness as the cause, determine if the muscle group can oppose gravity (2L) or the distal limb falls into a fully dependent posture (4L).